Index to Volume 27

BENJAMIN B. BAUER
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How to Use This Index

This index is of similar form to the Cumulative Indexes of this journal, covering, respectively, Volumes 1–10 and Volumes 11–20, and is composed of two main divisions: the Author Index and the Subject Index.

The Subject Index to Volume 27 of *The Journal of the Acoustical Society of America* lists the titles of all the papers, abstracts, and patents under thirteen section headings as follows: 0, General, Unclassified; 1, Acoustical Society of America; 2, Architectural Acoustics; 3, Books, Bibliographies, and Surveys; 4, Ear and Hearing; 5, Applied Acoustics, Instruments and Apparatus; 6, Musical Instruments and Music; 7, Noise; 8, Standards; 9, Speech and Singing; 10, Ultrasonics (Supersonics); 11, Waves and Vibrations; 12 (Changed to Section 0); and 13, Underwater Sound. Each of these sections is further divided into a considerable number of decimally numbered subjects, which are listed below under the heading, "Classification of Subjects." Each subject is divided into eight parts entitled Papers, Letters to the Editor, Abstracts, Subtitles, Patents, Book Reviews, News, and Errata. Under Papers will be found the original titles of all the papers appearing in the journal on that subject. Under Abstracts are listed the titles of the papers presented at meetings. Since a great amount of valuable material appears in the journal in papers whose titles cannot fully describe all the subjects which the papers cover, some subtitles of papers have been indexed under the heading Subtitles. When subtitles covering the material did not appear in the paper, they were written; the captions of some of the figures were also included under this heading. Thus, while the Subtitles portion of the index is informal, it is hoped that it will increase the probability of finding the desired information quickly. All patents appearing in the journal are listed under the heading Patents. New classifications are added from time to time. The year in which classifications are added appears in parentheses after the subject classes.

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Classification of Subjects

0. General, Unclassified

- 0.1 Errata
- 0.2 Conferences, Lectures, and Announcements, not of the Acoustical Society. (Started 1955.)
- 0.3 Non-Acoustical Theories. (Started 1955.)
- 0.4 Non-Acoustic Devices. (Started 1955.)

1. Acoustical Society of America

- 1.1 General, Unclassified
- 1.2 Constitution and By-Laws
- 1.3 History
- 1.4 Honorary Members
- 1.5 Meetings
- 1.6 Members and Membership Lists

2. Architectural Acoustics

- 2.1 General, Unclassified
- 2.2 Auditorium Design. (See also 7.6.)
- 2.3 Studies of Existing Auditoria
- 2.4 Sound Absorption, Theory and Methods of Measurement of. (See also 2.5.)
- 2.5 Materials for Sound Absorption. Values of Absorption Coefficients and Acoustic Impedances
- 2.6 Noise Reduction by Increased Room Absorption
- 2.7 Reverberation and Echoes. (See also 2.3, 2.4, 2.8, 2.9, and 2.10.)
- 2.8 Reverberation Measuring Instruments. (See also 2.7 and 5.15.)
- 2.9 Sound Transmission, Theory and Methods of Measurement of. (See also 2.10.)
- 2.10 Sound Insulating Structures. Values of Transmission Coefficients
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- 2.12 Damping of Panels

3. Books, Bibliographies, and Surveys

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- 3.3 Patents
- 3.4 Surveys, Historical and Philosophical Literature. (Started 1954.)

4. The Ear and Hearing

- 4.1 General, Unclassified
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- 4.6 Loudness, Threshold Determinations
- 4.7 Masking. (See also 5.5.)

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- 4.7 Masking. (See also 5.5.)

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4.9 Pitch
4.10 Subjective Tones
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5.14 Rayleigh Disks
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5.16d Disk Recording (including cutting and embossing)
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5.21 Vibration Devices. Devices for Generating or Damping Vibrations. (See also 2.11 and 5.9.)

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6.10 Reed Organs. Accordions, Harmonicas

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7.8 Noise Generators. (See also 13.9.)

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9.4 Frequency of Occurrence of Speech Sounds
9.5 Frequency Analyses of Speech Sounds
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10.3 Ultrasonic Instruments. (See also 5.18.)
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10.5 Liquids, Ultrasonic Velocities, Dispersion, and Absorption. (See also 13.2 and 13.3.)
10.6 Solids, Ultrasonic Velocities, Dispersion, and Absorption
10.7 Physical Effects of Ultrasonic Waves. (See also 10.2.)
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11.2.1 Gross Movement of Matter by Sound or Vibration. Acoustic Streaming. Chladni Figures. Kundt's Striae. Sensitive Flames. (See also 5.14 and 10.7.)
11.3 Propagation of Sound. Absorption during Propagation. Velocity of Sound. Second Sound. Refraction. Wavelength. Doppler Effect. (See also 10.4, 10.5, 10.6, 13.2, and 13.3.)
11.4 Radiation from Vibrating Objects. Acoustic Impedance. Mechanical Impedance. (See also 5.3 and 13.7.)
11.5 Sounds of Finite Amplitude. Distortion. (See also 13.10.)
11.6 Sound in Tubes
11.6.1 Sources of Sound. (See also 7.8 and 11.4.)
11.7 Theory of Waves and Vibrating Systems. (See also 5.4 and 11.1.5.)
11.8 Biological Effects of Vibration and Sound. (See also 10.9.)

12. (Changed to Section 0)

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13.3 Velocity of Sound in Water. Refraction. Doppler Effect
13.4 Reflection. Echoes. Structures for Absorbing Sound in Water
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13.9 Noise in Water. Ship Noise. Biological Noises
13.10 Sounds of Finite Amplitude in Water. Explosions. Distortion. Cavitation. (See also 11.5.)
13.11 Instruments Relating to Underwater Sound. General
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13.11t Transducers for Underwater Sound. Transducer Calibration. (See also 5.18.)

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Ackerman, Eugene and T. Proctor. Surface tension bubble resonances. **27**: 1016(A)—1955
—— (see Anthony, Adam). **27**: 1144—1955
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Perstimulatory fatigue as measured by heterophonic loudness balances. James P. Egan. 27: 200—1955

Technique for evaluating impact type noises. H. C. Hardy, F. G. Tyzzer, and H. H. Hall. 27: 1003—1955

Use of the psychogalvanic skin-resistance response in pure-tone audiometry. William G. Hardy. 27: 200—1955

SUBTITLES

Diagram and attenuation characteristic of the "sone potentiometer." E. C. Poulton and S. S. Stevens. 27: 329—1955

PATENTS

Amplifier chassis structure and casing for variable electronic hearing aids. Richard W. Carlisle, William H. Greenbaum, and Paul Gundersheim. 27: 989—1955

Earphone set pad. Sallie K. Stevens. 27: 191—1955

Hearing aid construction. Leland A. Watson. 27: 631—1955

Hearing aid unit. Clayton D. Mullin. 27: 399—1955

Protective carrier for portable audio devices and the like. Robert W. Hocks and John C. Jones. 27: 989—1955

Soundproof shield. Pierre A. Lienard. 27: 191—1955

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Akustische Messtechnik der Gehörprüfung (Acoustical techniques for the testing of hearing). F. J. Meister. (Reviewed by J. Zwislocki.) 27: 392—1955

4.6 Loudness, Threshold Determinations

PAPERS

Apparent reduction of loudness: a repeat experiment. S. S. Stevens, M. S. Rogers, and R. J. Herrnstein. 27: 326—1955

Auditory thresholds of the cat. William D. Neff and Joseph E. Hind. 27: 480—1955

Measurement of loudness. S. S. Stevens. 27: 815—1955

On the halving and doubling of the loudness of white noise. E. C. Poulton and S. S. Stevens. 27: 329—1955

Perstimulatory fatigue as measured by heterophonic loudness balances, James P. Egan. 27: 111—1955

Rating scale method for comparative loudness measurements. Walter C. Michels and Beatrice Taylor Doser. 27: 1173—1955

Sound level discrimination and variation of reference testing conditions. Irwin Pollack. 27: 474—1955

LETTERS TO THE EDITOR

Difference limen for the intensity of a vowel sound. James L. Flanagan. 27: 1223—1955

"Long-time" differential intensity sensitivity. Irwin Pollack. 27: 380—1955

Note on the threshold of pulsed signals as a function of duty cycle and carrier frequency. Arnold M. Small, Jr. 27: 794—1955

Sound level identification and intertrial stimulus variations. Irwin Pollack. 27: 1222—1955

ABSTRACTS

Loudness adaptation for bands of noise. Edward C. Carterette. 27: 1007—1955

Loudness discrimination. A. I. Rawnsley and J. D. Harris. 27: 1008—1955

Perstimulatory auditory fatigue for continuous and interrupted noise. Edward C. Carterette. 27: 201—1955

Perstimulatory fatigue as measured by heterophonic loudness balances. James P. Egan. 27: 200—1955

Technique for evaluating impact type noises. H. C. Hardy, F. G. Tyzzer, and H. H. Hall. 27: 1003—1955

4.7 Masking. (See also 5.5.)

PAPERS

Masking by a periodically interrupted noise. Irwin Pollack. 27: 353—1955

ABSTRACTS

Noise masked thresholds as a function of tonal duration and masking noise band width. P. M. Hamilton. 27: 1007—1955

Portable masking meter for measuring impact noise in industry. H. H. Hall. 27: 1003—1955

4.9 Pitch

PAPERS

Absolute pitch. A. Bachem. 27: 1180—1955

Channels of reception in pitch discrimination. Andrew G. Pikler and J. Donald Harris. 27: 124—1955

Pitch perception for certain periodic auditory stimuli. W. R. Thurlow and A. M. Small, Jr. 27: 132—1955

Some parameters influencing the pitch of amplitude modulated signals. Arnold M. Small, Jr. 27: 751—1955

Theory for pitches 19, 15, and 11 plus a rumbling resulting from "sin $19x$ + sin $15x$." Max F. Meyer. 27: 749—1955

4.10 Subjective Tones

PAPERS

Theory for pitches 19, 15, and 11 plus a rumbling resulting from "sin $19x$ + sin $15x$." Max F. Meyer. 27: 749—1955

LETTERS TO THE EDITOR

Note on the observation of the Tartini pitch. J. Sandstad. 27: 1226—1955

ABSTRACTS

Influence of phase coherence upon the pitch of complex, periodic sounds. J. C. R. Licklider. 27: 996—1955

4.11 Theories of Hearing

PAPERS

Channels of reception in pitch discrimination. Andrew G. Pikler and J. Donald Harris. 27: 124—1955

Human skin perception of traveling waves similar to those on the cochlea. G. v. Békésy. 27: 830—1955

Paradoxical direction of wave travel along the cochlear partition. G. v. Békésy. 27: 137—1955

Tonal monaural diplacusis. W. D. Ward. 27: 365—1955

ABSTRACTS

Analogy between cochlear fluid motion and formation of surf on sloping beaches. Juergen Tonndorf. 27: 1009—1955

Information-analysis and power-spectrum model of hearing. Andrew G. Pikler. 27: 208—1955
Round table on hearing theory. Mark R. Rosenzweig, W. A. Rosenblith, J. C. R. Licklider, Hallowell Davis, L. A. Jeffress, and W. D. Neff. 27: 210(T)—1955
Use of the psychogalvanic skin-resistance response in pure-tone audiometry. William G. Hardy. 27: 200—1955

4.13 Ear Acoustical Impedance

PAPERS

Mechanical impedance of the forehead and mastoid. Edith L. R. Corliss and Walter Koidan. 27: 1164—1955

5. Applied Acoustics, Instruments and Apparatus. (See also 2.8, 4.5, 9.6, 10.3, 13.11, 13.11n, and 13.11t.)

5.1 General, Unclassified

PAPERS

Acoustic intensity meter. Stuart Baker. 27: 269—1955
Analog electronic correlator for acoustic measurements. Kenneth W. Goff. 27: 223—1955
Application of correlation techniques to some acoustic measurements. Kenneth W. Goff. 27: 236—1955
Method of transducing an ultrasonic shadowgraph or image for display on an oscilloscope. E. E. Suckling and W. R. MacLean. 27: 297—1955
Semiplastic earplugs. J. Zwislocki. 27: 460—1955
Simple triggering and marking system for measuring shock-wave velocities in tubes. Edward G. Thurston. 27: 735—1955

LETTERS TO THE EDITOR

New system of logarithmic units. R. V. L. Hartley. 27: 174—1955

ABSTRACTS

Design of cylindrical microphone windscreens. Ira Dyer. 27: 206—1955
Noise-cancelling headset—an active ear defender. Elvin D. Simshauser and Mones E. Hawley. 27: 207—1955
Review of nonelectrical means for generating sound. John V. Bouyoucos. 27: 1005—1955

PATENTS

Air horn. George D. Woody. 27: 806—1955
Bird call whistle. John H. Bacon. 27: 631—1955
Dual chamber diaphragm resonator and sound device. Harry Gordon and Irving Fiske. 27: 807—1955
Electromagnetically operated sound producing horn. Robert Hesketh Purden. 27: 399—1955
Electromagnetic horn. Joe White and Clarence J. Keller. 27: 989—1955
Engine detonation control by acoustic vibratory member. Albert G. Bodine, Jr. 27: 631—1955
Fluid motor mechanism. Emil E. Sivacek. 27: 192—1955
High and low volume horn. Cleafe A. Best and Lloyd E. Johnson. 27: 191—1955
Liquid-siren sonic agitator. Arthur A. Fowle. 27: 806—1955
Muted horn assembly for vehicles. Glen H. Johnson. 27: 807—1955
Resonant sound signal device. Harry H. Hall and Otmar E. Teichmann. 27: 192—1955
Sound signals. Joe White. 27: 989—1955
Stethoscope. Andrew W. Fleischer. 27: 192—1955

BOOK REVIEWS

Electroacoustics. Frederick V. Hunt. (Reviewed by J. G. Woodward.) 27: 390—1955
Sonics. Theodor F. Heuter and Richard H. Bolt. (Reviewed by Isadore Rudnick.) 27: 797—1955
The amplification and distribution of sound. A. E. Greenlees. (Reviewed by Harry F. Olson.) 27: 797—1955

ERRATA

Acoustics. L. L. Beranek. 27: 621—1955

5.2 Amplifiers and Attenuators

PATENTS

Audio transducing apparatus and control circuits therefor. Alfonso J. Ruiz. 27: 192—1955

BOOK REVIEWS

Transistor audio amplifiers. Richard F. Shea. (Reviewed by L. J. Giacoletto.) 27: 980—1955

5.3 Acoustic and Mechanical Impedance Measurement. (See also 11.4.)

PAPERS

Mechanical impedance of the forehead and mastoid. Edith L. R. Corliss and Walter Koidan. 27: 1164—1955

5.4 Analyzers and Filters, Mechanical and Electrical. Acoustic Filters. Oscillographs. (See also 5.15.)

PAPERS

Analog electronic correlator for acoustic measurements. Kenneth W. Goff. 27: 223—1955

ABSTRACTS

Study of limitations on rapid signal analysis. Edith L. R. Corliss. 27: 1004—1955

PATENTS

Computation and display of correlation. William R. Bennett and Liss C. Peterson. 27: 192—1955
Drive system for mechanical filter. Dean F. Babcock. 27: 1236—1955
Electromechanical filter with center drive of disk. Wesley D. Peterson. 27: 632—1955
Longitudinal support of mechanical filter. Melvin L. Doelz. 27: 632—1955
Magnetostrictive filter device. Walter van B. Roberts. 27: 807—1955
Ringer. Leroy A. Cleaveland. 27: 631—1955
Vibrating reed selector. Le Roy Armitage. 27: 632—1955
Wave filter of extended area. Winston E. Kock. 27: 807—1955

5.5 Audiometers. (See also 4.4 and 4.5.)

PAPERS

Design and testing of earmuffs. J. Zwislocki. 27: 1154—1955

ABSTRACTS

Automatic audiometry. Scott N. Reger. 27: 200—1955
Automatic numerically recording audiometer. F. A. Brogan. 27: 200—1955
Use of the psychogalvanic skin-resistance response in pure-tone audiometry. William G. Hardy. 27: 200—1955

5.5.1 Broadcasting

PATENTS

Transmission system for stereophonic signals. Willem Wigger Boelens and Johannes Jacobus Zaalberg van Zelst. 27: 808—1955

5.7 Frequency Standards, Frequency Measuring and Recording Instruments

PAPERS

Instantaneous pitch-period indicator. Ladislav O. Dolanský. 27: 67—1955

PATENTS

Frequency determining unit. Frank Rieber. 27: 399—1955
Vibrating reed device. Benjamin L. Dyner. 27: 192—1955

5.8 Loudspeakers, Horns. (See also 5.13, 5.17, and 5.18.)

PAPERS

Analysis of Hypex horns. Romuald I. Ścibor-Marchocki. 27: 939—1955
Design and performance of a high-frequency electrostatic speaker. Lloyd Bobb, R. B. Goldman, and R. W. Roop. 27: 1128—1955
On Webster's horn equation. E. S. Weibel. 27: 726—1955

LETTERS TO THE EDITOR
Comments on the invited paper "Loudspeakers and microphones" by Leo L. Beranek. Benjamin F. Miessner. 27: 381—1955
Low-frequency tone-radiation demonstrator. Daniel W. Martin. 27: 789—1955
ABSTRACTS
Corona-type loudspeaker. Fujio Oda and Eugene Ackerman. 27: 1005—1955
Design and performance of a high-frequency electrostatic speaker. Lloyd Bobb, R. B. Goldman, and R. W. Roop. 27: 211—1955
Electrostatic loudspeakers. R. B. Goldman. 27: 1005—1955
PATENTS
Acoustic device. Sidney E. Levy, Saul J. White, and Abraham B. Cohen. 27: 400—1955
Acoustic diaphragm. Frank B. Lenz. 27: 400—1955
Acoustic system for loudspeakers. Frank Robbins and William Joseph. 27: 632—1955
Acoustic system for loudspeakers. Frank Robbins and William Joseph. 27: 632—1955
Coaxial, dual unit, electrodynamic loudspeaker. Harry F. Olson and John Preston. 27: 808—1955
Electromagnetic transducer-detector. Joseph L. Miller. 27: 1236—1955
High fidelity sound system. George H. Kuhl. 27: 808—1955
Loudspeaker having a conical diaphragm. Francis Hugh Brittain. 27: 989—1955
Permanent magnet structure for electrodynamic loudspeakers. Francis B. Smith. 27: 193—1955
Sound reproducing system. Henry C. Lang. 27: 400—1955
Sound translating apparatus. Harry F. Olson. 27: 400—1955
Transient test equipment. Vesper A. Schlenker. 27: 808—1955
BOOK REVIEWS
Electroacoustics. Frederick V. Hunt. (Reviewed by J. G. Woodward.) 27: 390—1955

5.9 Microphones, Vibration Microphones. Microphone Calibration Equipment and Techniques. (See also 5.18 and 13.11t.)

PAPERS
Acoustic intensity meter. Stuart Baker. 27: 269—1955
Probe microphone analysis and testing at high temperatures and high intensities. Kenneth W. Goff and Derwent M. A. Mercer. 27: 1133—1955
Some developments in vibration measurement. Seymour Edelman, Earle Jones, and Ernest R. Smith. 27: 728—1955
Two-projector null method for calibration of hydrophones at low audio and infrasonic frequencies. W. James Trott and Edward N. Lide. 27: 951—1955
LETTERS TO THE EDITOR
Comments on the invited paper "Loudspeakers and microphones," by Leo L. Beranek. Benjamin F. Miessner. 27: 381—1955
ABSTRACTS
Application of correlation techniques to geophysical prospecting. C. W. Horton. 27: 198—1955
Design of cylindrical microphone windscreens. Ira Dyer. 27: 206—1955
Improved blast pressure gauge for shock measurements. James W. Fitzgerald and Spence T. Marks. 27: 211—1955
Miniature barium titanate gauge for measuring shock-wave pressures. A. Siegelman and F. Mintz. 27: 211—1955
Nonloading vibration pickup utilizing an ultrasonic carrier beam. H. C. Hardy, H. H. Hall, D. B. Callaway, and D. S. Schover. 27: 1004—1955
Probe microphone testing at high temperatures and high intensities. Kenneth Goff and Derwent Mercer. 27: 1004—1955
PATENTS
Contact microphone. Creed M. Chorpening. 27: 990—1955
Directional transducer. Thoralf Aamodt. 27: 400—1955
Encased microphones. Edgar W. Breisch and John I. Seitz. 27: 1237—1955
Pressure gradient responsive microphone. Alfred H. Kettler and Mones E. Hawley. 27: 808—1955
Uniaxial microphone. Harry F. Olson, John Preston, and John C. Bleazey. 27: 193—1955
Unidirectional microphone. Alexander L. Dvorsky. 27: 990—1955
Velocity microphone. Harry F. Olson and John Preston. 27: 809—1955
Vibration pickup. Merlin O. Petroff. 27: 808—1955
BOOK REVIEWS
Electroacoustics. Frederick V. Hunt. (Reviewed by J. G. Woodward.) 27: 390—1955
NEWS
Lectures on "Vibration measuring instruments" by Professor Jesse Ormondroyd of the University of Michigan. 27: 181—1955

5.10 Navigational Instruments Using Air Sound. Altitude Measuring Instruments. Sound Ranging (for Underwater Ranging see 13.11n). Geophysical Prospecting

PAPERS
Elastic wave velocities in laminated media. J. E. White and F. A. Angona. 27: 310—1955
ABSTRACTS
Application of correlation techniques to geophysical prospecting. C. W. Horton. 27: 198—1955
Diffraction of a longitudinal pulse from a wedge in a solid. W. W. Grannemann. 27: 199—1955
Diffraction problems in elastic wave propagation in solids. L. Knopoff. 27: 199—1955
Propagation of seismic wavelets. Norman Ricker. 27: 199—1955
Seismic waves from a horizontal force. J. E. White, S. N. Heaps, and P. L. Lawrence. 27: 199—1955
Synthesis of seismograms from well log data. C. A. Swartz, R. A. Peterson, and R. W. Fillippone. 27: 199—1955
Use of models in the study of seismic phenomena. Daniel Silverman. 27: 199—1955
PATENTS
Accelerometer. George A. Head and Edward L. Norton. 27: 1237—1955
Apparatus for acoustic logging. John L. Martin. 27: 809—1955
Geophysical display system. Frank Rieber. 27: 810—1955
Method of and apparatus for displaying geophysical data. Frank Rieber. 27: 809—1955
Method of compositing seismic records. Gerald M. Webster. 27: 1237—1955
Mounting device for seismic wave responsive apparatus. Philip P. Gaby. 27: 1237—1955
Seismic exploration with shots above ground. Joseph F. Bayhi. 27: 1237—1955
Seismic recording. Eugen Merten. 27: 1237—1955
Seismic recording system. Orin C. Montgomery. 27: 1237—1955
Seismic surveying. Jacob Neufeld. 27: 809—1955
Seismic wave generating apparatus. James E. Hawkins. 27: 809—1955
Seismometer. Raymond G. Piety. 27: 809—1955
Selective pulse acoustic well logging apparatus. Gerald C. Summers and Robert A. Broding. 27: 632—1955

Sonic system for augmenting the extraction of petroleum from petroleum-bearing strata. Albert G. Bodine, Jr. 27: 809—1955
System of seismic recording. James E. Hawkins. 27: 809—1955
Velocity well logging. Gerald C. Summers. 27: 1237—1955
Well logging. Charles B. Vogel. 27: 1237—1955

5.13 Public Address Systems and Sound Picture Installations

PAPERS
Fundamental acoustics of electronic organ tone radiation. Daniel W. Martin. 27: 1113—1955

PATENTS
Communication system. René Hardy. 27: 810—1955
Concession ordering system for drive-in theaters. Allen B. Wilson. 27: 810—1955
Electric megaphone. Shitetsu Kamimori. 27: 400—1955
Portable public address system. Donovan D. Hunt. 27: 193—1955
Sound projection system. Marvin Camras. 27: 1238—1955

5.15 Sound Level Meters. Level Recorders. Sound Pressure Measurement. (See also 5.4.)

PAPERS
Acoustic intensity meter. Stuart Baker. 27: 269—1955
Measurement of loudness. S. S. Stevens. 27: 815—1955

ABSTRACTS
Measurement of sound power. R. J. Wells and G. N. Sawyer. 27: 206—1955
Portable masking meter for measuring impact noise in industry. H. H. Hall. 27: 1003—1955

5.16 Sound Recording and Reproducing. General

ABSTRACTS
Recording-reproducing system using a dielectric storage medium. Victor C. Anderson. 27: 1004—1955

PATENTS
Magnetic sound and combined optical and magnetic sound translating apparatus. Frank J. Schuessler. 27: 633—1955
Sound record transfer method and system. Robert W. Roderick. 27: 990—1955

5.16d Disk Recording (including cutting and embossing)

PAPERS
Calibration of test records by interference patterns. B. B. Bauer. 27: 586—1955

ABSTRACTS
Calibration of test records by interference patterns. B. B. Bauer. 27: 210—1955

PATENTS
Constant linear speed phonograph apparatus. Arthur B. Rudenauer. 27: 810—1955
Electric phonograph. Norman L. Chalfin. 27: 401—1955
Electrodynamic pickup. Hans Christian Hansen. 27: 402—1955
Electromechanical phonograph transducer. Clarence F. Jensen. 27: 633—1955
High-frequency modulated oscillator transducer system. Paul Weathers. 27: 401—1955
Insert for orienting the spindle aperture of disk-type phonograph records. Charles Smith, II. 27: 810—1955
Needle holding means for pickup. David J. Munroe. 27: 402—1955
Phonograph. Erik Wennerbo and Fritz August Svensson. 27: 633—1955
Phonograph pickup. René Snepvangers. 27: 811—1955
Phonograph pickup and other electric control devices. Henry J. Schultz and Melvern Orton. 27: 1238—1955
Phonograph pickup and similar electric control devices. Henry J. Schultz and Melvern Orton. 27: 1238—1955
Phonograph pickup and the like. Harry C. Warner. 27: 990—1955
Phonograph record adapter. Norman L. Chalfin. 27: 810—1955
Phonograph stylus support. Roy Dally. 27: 1238—1955
Phonograph tone arm control. Harry Herbert Vanderzee and Robert A. McCallum. 27: 990—1955
Piezoelectric phonograph pickup. Allan G. Chamberlain. 27: 810—1955
Preamplifier. Robert S. John, Jr. 27: 634—1955
Reciprocating cylinder phonograph. Irving Siegel. 27: 402—1955
Record supporting and releasing mechanism for automatic phonographs. Stanley I. MacDuff. 27: 633—1955
Reversible stylus mounting for phonograph pickup cartridges. Maurice Palo and Paul V. Kelly. 27: 811—1955
Selector means for phonograph and picture projectors. Jack Gilbert. 27: 634—1955
Sound reproducing apparatus. Foster E. Weld. 27: 401—1955
Testing of the pressure of the stylus of pickups. Edmund W. Mortimer. 27: 401—1955
Tone arm. Lloyd J. Andres. 27: 401—1955
Tone arm control mechanism. Barton A. Proctor. 27: 634—1955
Transducer. Clarence F. Jensen. 27: 633—1955
Universal sound reproducing stylus. John Drysdale Reid. 27: 401—1955

5.16m Magnetic Recording

PAPERS
Survey of flux-responsive magnetic reproducing heads. Otto Kornei. 27: 575—1955

PATENTS
Camera sound adapter device. Stephen H. Nyman. 27: 193—1955
Combined magnetic transducer head and coupling transformer. David E. Wiegand. 27: 638—1955
Demagnetization system for magnetic recorder-reproducer. Carl W. Claras. 27: 636—1955
Device for controlling a stray magnetic flux in magnetic sound translating devices. Benjamin S. Vilkomerson. 27: 635—1955
Drive control mechanism for magnetic recording apparatus. Albert P. Lang. 27: 991—1955
Electromagnetic transducer head. Marvin Camras. 27: 637—1955
Equipment for use with magnetic tape records. Frank J. Reed and Lloyd J. Bobb. 27: 634—1955
Equipment for use with tape records. Bruce Roberts. 27: 638—1955
Magazine and drive for magnetic tape reproducers. William Powell Lear. 27: 635—1955
Magnetic head and method of making same. Frederick G. Buhrendorf. 27: 635—1955
Magnetic head for perpendicular recording. Ragnar Thorensen. 27: 636—1955
Magnetic recording. Bruce Roberts. 27: 634—1955
Magnetic recording and reproducing system. Douglas E. Taylor. 27: 811—1955
Magnetic recording apparatus. Jean-Jacques Bessire. 27: 638—1955
Magnetic recording apparatus. Lawrence H. Connell. 27: 991—1955
Magnetic recording or reproducing head mount. Edmund Barany. 27: 635—1955
Magnetic recording, reproducing or erasing head. Harold W. Lord. 27: 637—1955
Magnetic record reproducing system. Henry E. Roys. 27: 636—1955
Magnetic record system. Albert W. Friend. 27: 638—1955
Magnetic transducing unit. George J. Saliba and Morris M. Gruber. 27: 637—1955

Method of making filamentary electromagnetic transducers. Frederick G. Buhrendorf. 27: 634—1955
Multi-channel, flux responsive, magnetic reproducer head unit. Otto Kornei. 27: 991—1955
Portable magnetic tape recorder. Nathan M. Haynes. 27: 635—1955
Sound head mounting. John L. Franklin. 27: 636—1955
Sound recording and reproducing device. Italo Ninni. 27: 811—1955
Sound recording or reproducing apparatus. Henry Milburn Harrison and John William Driscoll. 27: 637—1955
Sound recording or reproducing apparatus. Edwin Malcolm Payne and Henry Milburn Harrison. 27: 991—1955
Stepped magnetic recording head. Morton F. Spears. 27: 635—1955
Support system for movable elements of magnetic recording and reproducing instruments. Harold W. Bauman. 27: 636—1955
Tape marker for magnetic tape recorders. Milton H. Hutt. 27: 634—1955
Tape recorder and playback machine. Thomas Goodwin. 27: 636—1955
Transducing apparatus and magazine usable therewith. Freeman H. Owens. 27: 636—1955
Wide range magnetic recording system and method. Michael Rettinger. 27: 637—1955

5.17 Telephone, Telephone Receivers

PAPERS

Design and testing of earmuffs. J. Zwislocki. 27: 1154—1955
Development of a semiplastic earphone socket. J. Zwislocki. 27: 155—1955
Factors determining the sound attenuation produced by earphone sockets. Jozef Zwislocki. 27: 146—1955

ABSTRACTS

Acoustic attenuation of earphone-noise shield combinations. P. O. Thompson, H. R. Beitscher, and J. C. Webster. 27: 206—1955
Noise-cancelling headset—an active ear defender. Elvin D. Simshauser and Mones E. Hawley. 27: 207—1955
Your own voice under earphones. John P. Dolch and Earl D. Schubert. 27: 1001—1955

PATENTS

Acoustic filter. William C. Zaug. 27: 992—1955
Acoustic filter for telephone receivers. Albert G. Bodine, Jr. 27: 991—1955
Magnetic sound powered telephone. Samuel I. Berger. 27: 638—1955
Sound powered telephones and method of making same. Carl Schoeneberg. 27: 992—1955
Telephone and similar communication systems. Morton S. Gottlieb. 27: 194—1955
Telephone set. Sherman T. Brewer. 27: 402—1955
Toy telephone system. Morton S. Gottlieb. 27: 194—1955

5.18 Transducing Principles and Structures. Thermophones. (See also 5.8, 5.9, 5.17, 10.3, 13.7, and 13.11t.)

PAPERS

Aging of the properties of barium titanate and related ferroelectric ceramics. W. P. Mason. 27: 73—1955
Anisotropy of polarized polycrystalline barium titanate. Donald S. Moseley. 27: 947—1955
Design and performance of a high-frequency electrostatic speaker. Lloyd Bobb, R. B. Goldman, and R. W. Roop. 27: 1128—1955
Design of large variable resonant frequency transducers. Francis J. Fry, Floyd Dunn, and William J. Fry. 27: 570—1955
On the contribution of a contained viscous liquid to the acoustic impedance of a radially vibrating tube. Donald H. Robey. 27: 22—1955
Transducer design for ultrasonic delay lines. H. J. McSkimin. 27: 302—1955
Ultrasonic shutter. Charles L. Darner and Robert J. Bobber. 27: 908—1955
Ultrasonic velocities in polarized barium titanate ceramics. H. B. Huntington and R. D. Southwick. 27: 677—1955

ABSTRACTS

Electrical admittance of radially and circumferentially polarized barium titanate cylinders. J. F. Haskins and J. L. Walsh. 27: 1011—1955
Experimental study of the effect of bond thickness and position on Q in butt-joined ADP crystal plates. B. J. Faraday and D. J. G. Gregan. 27: 1011—1955
Generation and detection of acoustic waves by means of the Hall effect in electrolytes. 27: 1005—1955
Investigations concerning polarization in barium titanate ceramics. D. L. Waidelich, G. W. Marks, and L. A. Monson. 27: 1011—1955
Limitations encountered in the design of transducers for ultrasonic machining. Neil Clark. 27: 1017—1955
Review of nonelectrical means for generating sound. John V. Bouyoucos. 27: 1005—1955
Transducer calibration by impedance measurements. G. A. Sabin. 27: 1011—1955

PATENTS

Compressional wave-guide system. Winston E. Kock. 27: 194—1955
Electrochemical transducing device. Cornelis M. van der Burgt and Jacob F. Klinkhamer. 27: 639—1955
Impact transducer. Jerome D. Heibel. 27: 639—1955
Sonic generator for the agitation of fluids. Arthur A. Fowle. 27: 639—1955
Sound wave refractor. Winston E. Kock. 27: 194—1955
Ultrasonic delay line. Walther M. A. Anderson. 27: 402—1955
Ultrasonic transducer. Vesper A. Schlenker. 27: 639—1955
Variable resonant frequency ultrasonic generator. William J. Fry. 27: 638—1955

ERRATA

Graphical aids in interpreting the performance of crystal transducers. Walter G. Cady. 27: 180—1955

5.19 Tuning Forks

PAPERS

Response of the Sperry rate Gyrotron to varying rates of turn. Charles T. Morrow. 27: 62—1955
Steady state response of the Sperry rate Gyrotron or vibratory gyroscope. Charles T. Morrow. 27: 56—1955

PATENTS

Oscillator. Jack G. Smith. 27: 1238—1955
Time constant meter for tuning forks and the like. Charles T. Morrow. 27: 992—1955
Tuning fork oscillators. Frank Dostal. 27: 992—1955

5.21 Vibration Devices. Devices for Generating or Damping Vibrations. (See also 2.11 and 5.9.)

PAPERS

Some developments in vibration measurement. Seymour Edelman, Earle Jones, and Ernest R. Smith. 27: 728—1955

PATENTS

Accelerometer. Franz W. Stubner. 27: 402—1955
Linear type acceleration sensing device having an oscillatory diaphragm. Carl von Basel. 27: 639—1955
Torsional vibration dynamic damper. Gilles François Sarazin. 27: 640—1955
Tuning of vibratory systems. Sam Cerminara. 27: 811—1955

Vibration damper. David MacIntyre. 27: 639—1955
NEWS
Lectures on "Vibration measuring instruments" by Professor Jesse Ormondroyd of the University of Michigan. 27: 181—1955

6. Musical Instruments and Music

6.1 General, Unclassified
PAPERS
Electronic music synthesizer. Harry F. Olson and Herbert Belar. 27: 595—1955
Metastable jet-tone states of jets from sharp-edged circular, pipe-like orifices. A. B. C. Anderson. 27: 13—1955
LETTERS TO THE EDITOR
Musician as a guinea pig. Andrew G. Pikler. 27: 617—1955
Synchronization of music on dual tapes. Andrew G. Pikler. 27: 974—1955
Why an international standard tuning frequency. Robert W. Young. 27: 379—1955
ABSTRACTS
Mistuning desirable in organs, pianos, choruses, and orchestras. Edward M. Little. 27: 205—1955
Why an international tuning frequency. Robert W. Young. 27: 205—1955
PATENTS
Apparatus for transposing music. Philip H. Barnes. 27: 640—1955
Keyboard for musical instruments. Siegfried Koch and Friedrich Feilhaber. 27: 992—1955
Revised decatonic keyboard. William L. Young. 27: 1238—1955

6.2 Bells, Xylophones. Other Instruments Having Rigid Vibrators
LETTERS TO THE EDITOR
Vibration of a square plate point supported at midpoints of sides. Hugh L. Cox. 27: 791—1955
PATENTS
Bell. Norman M. Earl and Alexander M. Brown. 27: 992—1955
Electrically actuated bell ringer. Frank A. Kasprowicz. 27: 1238—1955
Musical instrument. Edward J. Doyle. 27: 194—1955
Tone adjustment for vibrant bars. Paul H. Rowe. 27: 992—1955
Tuned vibrating system. Joseph F. Marshall. 27: 993—1955
Xylophone construction. Harry Zimmerman. 27: 993—1955

6.3 Brass Wind Instruments (lip vibrated)
ABSTRACTS
Effect of the oral and pharyngeal cavities on trumpet tone quality. Jody C. Hall. 27: 996—1955
Some related subjective and objective measurements on cornet tones. Earle L. Kent. 27: 209—1955
Sound pressure spectra of a muted cornet. J. E. Ancell. 27: 996—1955
PATENTS
Mute for wind instruments. Walter C. Martin. 27: 640—1955
BOOK REVIEWS
Intonation deficiencies of wind instruments in ensemble. Donald W. Stauffer. (Reviewed by Robert W. Young.) 27: 183—1955

6.4 Drums and Other Membranophonic Instruments
PATENTS
Drum head tensioning device. Jason D. Fendlason, Sr. 27: 993—1955

6.5 Pipe Organs
ABSTRACTS
Tone production in the organ flue pipe. Derwent M. A. Mercer. 27: 209—1955
PATENTS
Means for teaching arrangements of the piano. Charles Nelson. 27: 640—1955
Musical note and keyboard translator. Joseph E. Scheb. 27: 640—1955
Piano action. Wilbur W. Waters. 27: 640—1955
Piano key easing machine. Mason A. Jacobson and Harold J. McGetrick. 27: 641—1955
Practice keyboard. Charles Frederick Stein. 27: 640—1955

6.6 Pianos and Other Keyboard Stringed Instruments
PATENTS
Keyboard and accessory. Harold A. Jewett. 27: 195—1955
Keyboard musical instrument. Harold A. Jewett. 27: 195—1955
Keyboard positioning control. Alan E. Murray. 27: 993—1955
Key indicator for piano keyboards. Louis A. Ruben. 27: 195—1955
Piano key action. David Barnett. 27: 993—1955
Piano string inserter. John A. Hoke. 27: 993—1955
Support resilience equalizer. Harold A. Jewett. 27: 194—1955
BOOK REVIEWS
How to build a Baroque concert harpsichord. Richard Schulze. (Reviewed by Floyd A. Firestone.) 27: 621—1955

6.7 Violin Family. Stringed Instruments Except Keyboard Type
PATENTS
Bridge for stringed musical instruments. Lawrence P. Allers. 27: 1239—1955
Mute. Davis Shuman. 27: 403—1955
Stringed musical instrument. Josephus Thompson. 27: 403—1955
Tailpiece for stringed instruments. Warren B. Straton. 27: 195—1955
Viol class instrument. Othmar Steinbauer. 27: 403—1955
Violin support. Elgard Malvin Ungh. 27: 812—1955

6.8 Wood Winds
PATENTS
Clarinet. Oscar E. Christensen. 27: 195—1955
Pad spring for wind instruments. Eugene Sander. 27: 812—1955
Reed gauge for musical instruments. Jacob Topor. 27: 195—1955
Reed testing device of musical instruments. Nelson Hall. 27: 195—1955
Reed trimmer. Lucien Cordier. 27: 195—1955
Saxophone. Fred N. Meyers. 27: 812—1955
BOOK REVIEWS
Intonation deficiencies of wind instruments in ensemble. Donald W. Stauffer. (Reviewed by Robert W. Young.) 27: 183—1955

6.9 Electrical Musical Instruments
PAPERS
Electronic music synthesizer. Harry F. Olson and Herbert Belar. 27: 595—1955
Fundamental acoustics of electronic organ tone radiation. Daniel W. Martin. 27: 1113—1955
Touch-sensitive organ based on an electrostatic coupling device. Hugh Le Caine. 27: 781—1955
LETTERS TO THE EDITOR
Synchronization of music on dual tapes. Andrew G. Pikler. 27: 974—1955
Touch sensitive keying devices. Benjamin Franklin Miessner. 27: 1227—1955

ABSTRACTS
Electronic music synthesizer. Harry F. Olson and Herbert Belar. 27: 996—1955
Fundamental acoustics of electronic organ tone radiation. Daniel W. Martin. 27: 209—1955
Voicing of electronic organs. Charles Tennes. 27: 209—1955
PATENTS
Apparatus for producing complex waves at a desired frequency. Earle L. Kent. 27: 812—1955
Electrical input circuit with noise reducing means. William R. Ayres and Daniel W. Martin. 27: 641—1955
Electrical musical instrument. John M. Hanert. 27: 641—1955
Electrical musical instrument. Winston E. Kock. 27: 642—1955
Electrical musical instrument producing chorus effects. John M. Hanert. 27: 195—1955
Electric guitar stand with knee action volume control. Warren A. Pressler. 27: 195—1955
Electronic musical instrument. Constant Martin. 27: 1239—1955
Electronic tone generator. Richard E. Williams. 27: 641—1955
Keyboard. Joseph A. Mathews and Harold Wheeler. 27: 1239—1955
Means for controlling the tone quality and tone volume of electrical musical instruments. René Seybold. 27: 812—1955
Musical instrument. Herbert L. Leach. 27: 1239—1955
Organ swell control. Francis M. Schmidt. 27: 642—1955
Pickup device for stringed instruments. Ralph Keller. 27: 196—1955
Radio-frequency, electro-dynamic pickup system. Benjamin F. Miessner. 27: 993—1955
Tone generator. Frank H. Slaymaker and Willard F. Meeker. 27: 641—1955
BOOK REVIEWS
Electronic musical instruments. Richard H. Dorf. (Reviewed by D. W. Martin.) 27: 981—1955

6.10 Reed Organs. Accordions, Harmonicas

PATENTS
Harmonica construction. Charles J. Obst. 27: 403—1955
Mount for two-way responding reeds. John Rumonoski. 27: 642—1955
Muting device for musical instruments. Mario Pancotti. 27: 812—1955
Player harmonica. Vincent Costello. 27: 642—1955
Sound chamber for accordions. Domenic A. Alberico. 27: 196—1955
Valve control for accordions. Alfredo Brilli. 27: 1239—1955

7. Noise

7.1 General, Unclassified

PAPERS
Application of correlation techniques to some acoustic measurements. Kenneth W. Goff. 27: 236—1955
On the production of sound by jets. Nigel Thomas. 27: 446—1955
Semiplastic earplugs. J. Zwislocki. 27: 460—1955
ABSTRACTS
Airborne noise levels in submarines. Willard F. Meeker and Mones E. Hawley. 27: 203—1955
Control of noise from Air Force operations. Horace O. Parrack. 27: 202—1955
Differentiation in the mating call of anuran amphibians. W. Frank Blair. 27: 211—1955
Measured amplitude distribution of noise voltages. L. Y. Tu and R. C. Raymond. 27: 1004—1955
Noise and jet transports—a partial discussion. M. M. Miller and James E. Calkins. 27: 203—1955
Noise reduction in a passenger airplane. L. L. Beranek and E. M. Kerwin, Jr. 27: 1014—1955
Progress in noise control. Leo L. Beranek. 27: 198—1955
Vibration, shock, and noise environment in military aircraft and its effects on electronic components. F. Mintz and M. B. Levine. 27: 203—1955
BOOK REVIEWS
Selected papers on noise and stochastic processes. Nelson Wax, editor. (Reviewed by Carl Eckart.) 27: 183—1955
NEWS
Graph paper for noise. 27: 387—1955
Joint aircraft noise session. 27: 181—1955

7.2 Annoyance

ABSTRACTS
Control of noise from Air Force operations. Horace O. Parrack. 27: 202—1955
SUBTITLES
Criteria for acceptable background levels. L. L. Beranek, S. Labate, and U. Ingard. 27: 87—1955

7.3 Audiograms of Noise

ABSTRACTS
Results of noise measurements on wind tunnels. H. Medwin, A. C. Pietrasanta, and I. Dyer. 27: 1015—1955

7.4 City Noise

ABSTRACTS
Noise levels in State College, Pennsylvania. William F. Bateman and Eugene Ackerman. 27: 1015—1955
Proposed new city zoning performance standard for noise in Chicago. H. C. Hardy and G. L. Bonvallet. 27: 1015—1955

7.5 Frequency Analyses of Noise

PAPERS
Acoustical behavior of some engine test cell structures. B. G. Watters, S. Labate, and L. L. Beranek. 27: 449—1955
Measurement of difference in loudness between typing noises. Joseph Abruzzo. 27: 457—1955
On the spectrum of noise from turbulence. Osman K. Mawardi. 27: 442—1955
ABSTRACTS
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SUBTITLES
Noise spectra with and without ram jet in the test section. L. L. Beranek, S. Labate, and U. Ingard. 27: 87—1955

7.6 Noise in Buildings. (See also 2.2.)

ABSTRACTS
Measurement of difference in loudness between typing noises. J. Abruzzo. 27: 206—1955
NEWS
Symposium on structure-borne sound, Göttingen and Braunschweig, April 19th to 22nd, 1955. 27: 181—1955

7.7 Machinery Noise. Mufflers. Noise Silencers

PAPERS
Acoustical behavior of some engine test cell structures. B. G. Watters, S. Labate, and L. L. Beranek. 27: 449—1955
Measurement of difference in loudness between typing noises. Joseph Abruzzo. 27: 457—1955
Noise control for NACA supersonic wind tunnel. L. L. Beranek, S. Labate, and U. Ingard. 27: 85—1955
Noise of centrifugal fans. Leo L. Beranek, George W. Kamperman, and Clayton H. Allen. 27: 217—1955

Some results of experiments relating to the generation of noise in jets. L. W. Lassiter and H. H. Hubbard. **27**: 431—1955
Use of flat splitter construction in aviation test cell silencing. Martin Hirschorn. **27**: 969—1955
ABSTRACTS
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Correlation of turbojet noise with engine design. Derwent M. A. Mercer. **27**: 203—1955
Design and operating factors in the noise output of turbojet engines. Derwent M. A. Mercer. **27**: 1014—1955
General design considerations in the quieting of jet aircraft run-up testing. C. J. Hemond, Jr., and R. D. Lemmerman. **27**: 203—1955
Noise and jet transports—a partial discussion. M. M. Miller and James E. Calkins. **27**: 203—1955
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Noise from centrifugal fans. R. B. Goldman and G. C. Maling. **27**: 1015—1955
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Nonabsorptive silencing system for stationary test facilities and portable ground mufflers. Martin Hirschorn, Robert Zecca, and Stannard M. Potter. **27**: 1014—1955
Performance characteristics of acoustically-treated planishing hammer booths. D. B. Callaway and C. C. Casiday. **27**: 206—1955
Results of noise measurements on wind tunnels. H. Medwin, A. C. Pietrasanta, and I. Dyer. **27**: 1015—1955
Survey of organ-pipe oscillations in combustion systems. Abbott A. Putnam and William R. Dennis. **27**: 1014—1955
SUBTITLES
Performance of the 2.5 to 1 scale model of the Fiberglas section of the muffler. L. L. Beranek, S. Labate, and U. Ingard. **27**: 94—1955
PATENTS
Jet blast cooling and quieting device. Harry W. Burdett, Jr., Bernard Pearlman, and Edward A. Neu, Jr. **27**: 812—1955
Muffled resonant pulse jet combustion heating device. Bodo Lafferentz, Ludwig R. Huber, and Bernhardt E. Strittmater, **27**: 1239—1955
Muffler assembly for internal combustion engines. Mans Fredrik Backman. **27**: 1240—1955
Muffler for internal combustion engines. Cornell Janeway. **27**: 1240—1955
Pulsation dampeners. Ned H. Moerke and Charles Newman. **27**: 1239—1955
Resonator mounting on underside of hood. Charles W. Thomas. **27**: 812—1955
NEWS
Joint aircraft noise session. **27**: 181—1955
7.8 Noise Generators. (See also 13.9.)
PAPERS
Explosive noise source. William J. Galloway, Bill G. Watters, and Jordan J. Baruch. **27**: 220—1955
Metastable jet-tone states of jets from sharp-edged, circular, pipe-like orifices. A. B. C. Anderson. **27**: 13—1955
LETTERS TO THE EDITOR
Note on the emission of noise by supersonic jets. Henry P. Kramer. **27**: 789—1955
ABSTRACTS
Noise helmet. Mones E. Hawley and A. L. Witchey. **27**: 1003—1955
Review of nonelectrical means for generating sound. John V. Bouyoucos. **27**: 1005—1955

Standards

8.1 General, Unclassified
Activities of Z24 Standards Committee. **27**: 618—1955
Last call [American Standard Acoustical Terminology Z24]. **27**: 1228—1955
Microphone calibration. **27**: 387—1955
Sound and vibration analyzers. **27**: 618—1955
Terminology for shock and vibration. **27**: 388—1955
LETTERS TO THE EDITOR
Acoustic *vs* acoustical. F. V. Hunt. **27**: 975—1955
ABSTRACTS
Articulation testing and standards for articulation tests. Mones E. Hawley. **27**: 200—1955
Problems and terminology of the decibel [Workshop Meeting of Z24]. **27**: 1001—1955
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Some related subjective and objective measurements on cornet tones. Earle L. Kent. **27**: 209—1955
Terminology for acoustic impedance, specific acoustic impedance, and radiation impedance [Workshop Meeting of Z24]. **27**: 1001—1955

9. Speech and Singing

9.1 General, Unclassified
PAPERS
Analysis of perceptual confusions among some English consonants. George A. Miller and Patricia E. Nicely. **27**: 338—1955
Auditory testing of a simplified description of vowel articulation. A. S. House and K. N. Stevens. **27**: 882—1955
Calculations on a model of the vocal tract for vowel /i/ (meat) and on the larynx. Jw. van den Berg. **27**: 332—1955
Comparison of hyponasality, hypernasality, and normal voice quality on the intelligibility of two-digit numbers. Henry M. Moser, John J. Dreher, and Sol Adler. **27**: 872—1955
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Duration and intensity as physical correlates of linguistic stress. D. B. Fry. **27**: 765—1955
Effect of duration on the perception of voicing. P. Denes. **27**: 761—1955
Improvements in message reception resulting from "sequencing" competing messages. J. C. Webster and L. Sharpe. **27**: 1194—1955
Listening to differentially filtered competing voice messages. W. Spieth and J. C. Webster. **27**: 866—1955
Phonemic confusion vectors. Henry M. Moser and John J. Dreher. **27**: 874—1955
Relative intelligibility of speech recorded simultaneously at the ear and mouth. Herbert J. Oyer. **27**: 1207—1955
Simultaneous and alternate listening and speaking. E. C. Poulton. **27**: 1204—1955
Vowel synthesis by means of resonant circuits. E. S. Weibel. **27**: 858—1955
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Difference limen for the intensity of a vowel sound. James L. Flanagan. **27**: 1223—1955
ABSTRACTS
Electrical synthesizer of continuous speech. K. N. Stevens, R. P. Bastide, and C. P. Smith. **27**: 207—1955
Message reception as a function of the time of occurrence of extraneous messages. Robert W. Peters. **27**: 208—1955
Your own voice under earphones. John P. Dolch and Earl D. Schubert. **27**: 1001—1955

PATENTS
Compressible sound producing toy and voice therefor. John H. Wilhelm. 27: 196—1955
BOOK REVIEWS
Physiologie der Stimme und Sprache. Hans Lullies. (Reviewed by Morris Halle.) 27: 391—1955
ERRATA
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Note on autocorrelation analysis of speech sounds. W. H. Huggins. 27: 180—1955

9.2 Anatomy and Physiology of the Speech Organs

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Transmission of the vocal cavities. Jw. van den Berg. 27: 161—1955
SUBTITLES
True dimensions of the larynx during breathing. Jw. van den Berg. 27: 337—1955

9.3 Articulation Testing. Intelligibility. Defective Speech

PAPERS
Analysis of perceptual confusions among some English consonants. George A. Miller and Patricia E. Nicely. 27: 338—1955
Articulation scores for two similar, reverberant rooms, one with polycylindrical diffusers on walls and ceiling. L. A. Jeffress, R. N. Lane, and Frank Seay. 27: 787—1955
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Effects of response complexity upon listening to competing messages. J. C. Webster and L. N. Solomon. 27: 1199—1955
Effects of training on listeners in intelligibility studies. Henry M. Moser aond John J. Dreher. 27: 1213—1955
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Simultaneous and alternate listening and speaking. E. C. Poulton. 27: 1204—1955
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Addition to Cherry's findings on switching speech between the two ears. Earl D. Schubert and Charles D. Parker. 27: 792—1955
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Comparison of predicted and obtained thresholds for speech. Fred L. Royer and John F. Corso. 27: 1013—1955
Effect of attenuating one channel of a dichotic circuit upon the word reception of dual messages. Gilbert C. Tolhurst and Robert W. Peters. 27: 1000—1955
Effect of short times of exposure to speaker's voice upon listener reception. Robert W. Peters. 27: 1000—1955
Effects of listener training on differential recognition of monosyllables: implication for audiology and intelligibility testing. John J. Dreher. 27: 1012—1955
Effects of vocal effort on intelligibility. J. M. Pickett. 27: 1000—1955
Experiments in peak clipping a mixture of speech and acoustic noise. Mones E. Hawley and Willard F. Meeker. 27: 1000—1955
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Number telling methods for two-, three-, and four-digit numbers. Sol Adler. 27: 1000—1955
Thresholds for speech in the presence of interfering speech. Bruce M. Siegenthaler. 27: 1013—1955
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9.4 Frequency of Occurrence of Speech Sounds

LETTERS TO THE EDITOR
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ABSTRACTS
Influences of variations in speech intensity and other factors upon the speech spectrum. J. C. R. Licklider, Mones E. Hawley, and Robert A. Walkling. 27: 207—1955

9.5 Frequency Analyses of Speech Sounds

PAPERS
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PATENTS
High-speed continuous spectrum analysis. Ralph L. Miller. 27: 994—1955
Phonetic printer of spoken words. Meguer V. Kalfaian. 27: 994—1955

9.6 Instruments Relating to Speech and Singing

PAPERS
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Electrical synthesizer of continuous speech. K. N. Stevens, R. P. Bastide, and C. P. Smith. 27: 207—1955

PATENTS
Apparatus and method for analyzing, compressing, or expanding speech and other sound recordings. Friedrich Vilbig. 27: 1240—1955
Fundamental pitch detector system. Michael J. Di Toro, Walton Graham, and Bernard M. Dwork. 27: 813—1955
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Voice-operated device. Rulon S. Biddulph and Kingsbury H. Davis. 27: 403—1955

9.10 Phonetics

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Auditory testing of a simplified description of vowel articulation. A. S. House and K. N. Stevens. 27: 882—1955
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10. Ultrasonics (Supersonics)

10.1 General, Unclassified

PAPERS
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Method of transducing an ultrasonic shadowgraph or image for display on an oscilloscope. E. E. Suckling and W. R. MacLean. 27: 297—1955
Relaxations in the attenuation of single crystal lead at low temperatures and their relation to dislocation theory. W. P. Mason. 27: 643—1955

ABSTRACTS
Frequency characteristics of colloidal vibration potentials. Ernest Yeager, Joseph Dereska, and Frank Hovorka. 27: 204—1955
Ultrasonic shutter. Charles L. Darner and Robert J. Bobber. 27: 204—1955

BOOK REVIEWS
Der Ultraschall und Seine Anwendung in Wissenschaft und Technik: Ultrasonics and its application in science and technology. Ludwig Bergmann. (Reviewed by R. B. Lindsay.) 27: 184—1955

10.2 Light Affected by Ultrasonic Waves

PAPERS
Instrument to study relaxation rates behind shock waves. E. L. Resler, Jr., and M. Scheibe. 27: 932—1955
Measurements of the absorption of ultrasonic waves in liquids by the method of isochromates. M. M. Kannuna. 27: 5—1955

LETTERS TO THE EDITOR
Simple way to observe optical diffraction patterns produced by shear waves. M. A. Breazeale and E. A. Hiedemann, 27: 1220—1955

10.3 Ultrasonic Instruments. (See also 5.18.)

PAPERS
Aging of the properties of barium titanate and related ferroelectric ceramics. W. P. Mason. 27: 73—1955
Design of large variable resonant frequency transducers. Francis J. Fry, Floyd Dunn, and William J. Fry. 27: 570—1955
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Microacoustic interferometer using 30-Mc pulses. R. A. McConnell and W. F. Mruk. 27: 672—1955
Production of accelerated cavitation damage by an acoustic field in a cylindrical cavity. A. T. Ellis. 27: 913—1955
Tank wall lining for underwater sound use. Paul Tamarkin and R. K. Eby. 27: 692—1955
Thickness measurement by ultrasonic resonance. E. G. Cook and H. E. Van Valkenburg. 27: 564—1955
Transducer design for ultrasonic delay lines. H. J. McSkimin. 27: 302—1955
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Corona-type loudspeaker. Fujio Oda and Eugene Ackerman. 27: 1005—1955

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Limitations encountered in the design of transducers for ultrasonic machining. Neil Clark. 27: 1017—1955
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Ultrasonic cutting of quartz wafers. Norman E. Gibbs. 27: 1017—1955
Ultrasonic shutter. Charles L. Darner and Robert J. Bobber. 27: 204—1955

PATENTS

Acoustic delay device. John Presper Eckert, Jr., and John W. Mauchly. 27: 197—1955
Apparatus and method for the generation and use of sound waves in liquids for the high-speed wetting of substances immersed in the liquid. Frank Massa. 27: 994—1955
Dummy intruder for intruder detection systems. Samuel M. Bagno. 27: 813—1955
High absorption backings for ultrasonic crystals. Fred H. Hardie and Robert C. Goodman. 27: 1240—1955
High-speed ultrasonic indicator. Harcourt C. Drake. 27: 814—1955
Method and apparatus for detecting motion in a confined space. Samuel M. Bagno. 27: 813—1955
Method and apparatus for washing articles by supersonic vibration in a flowing liquid. Samuel Bagno. 27: 196—1955
Resonance device for inspecting materials. Elliott A. Henry. 27: 813—1955
Sound generator and transmitter for door controlling mechanism. Boley A. Andrews and George M. Pro. 27: 813—1955
Supersonic delay line. Herbert Shapiro. 27: 994—1955
Supersonic testing of hot articles. Cecil Farrow. 27: 813—1955
Tool chuck for vibrating devices. Carlo L. Calosi. 27: 403—1955
Ultrasonic inspection device. Elliott A. Henry. 27: 1240—1955
Ultrasonic inspection device. Robert N. Straehl and William E. Mesh. 27: 642—1955
Ultrasonic inspection device. Howard E. Van Valkenburg. 27: 403—1955
Ultrasonic rail test device. Harcourt C. Drake. 27: 197—1955
Ultrasonic testing device. Elliott A. Henry. 27: 197—1955
Ultrasonic vibratory devices. Carlo L. Calosi and Preston B. Carwile. 27: 994—1955
Unwanted reflection absorbing shear wave transducer. Henrique A. F. Rocha. 27: 197—1955

10.4 Gases, Ultrasonic Velocities, Dispersion and Absorption. (See also 11.3.)

PAPERS

Ultrasonic dispersion in 1,1- and 1,2-dichloroethane vapors. T. Seshagiri Rao and J. C. Hubbard. 27: 321—1955

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Note on the papers: I. "Combined translational and relaxational dispersion of sound in gases," by M. Greenspan; II. "The effects of viscosity and heat conduction on the transmission of plane sound pulses," by J. R. Knudsen. Stephen Jarvis, Jr. 27: 613—1955

ABSTRACTS

Thermal relaxation in gaseous N_2O as affected by small additions of H_2O and D_2O vapors. Howard M. Wight. 27: 998—1955
Ultrasonic-wave velocity and attenuation in liquid crystal compounds. W. A. Hoyer and A. W. Nolle. 27: 204—1955
Velocity and absorption of ultrasonic waves in liquids under pressure. J. F. Mifsud and A. W. Nolle. 27: 204—1955

10.5 Liquids, Ultrasonic Velocities, Dispersion, and Absorption. (See also 13.2 and 13.3.)

PAPERS

Absorption and velocity of ultrasonic waves of finite amplitude in liquids. D. M. Towle and R. B. Lindsay. 27: 530—1955
Attenuation of ultrasound in aqueous suspensions. V. J. Stakutis, R. W. Morse, M. Dill, and R. T. Beyer. 27: 539—1955
Measurements of the absorption of ultrasonic waves in liquids by the method of isochromates. M. M. Kannuna. 27: 5—1955
Microacoustic interferometer using 30-Mc pulses. R. A. McConnell and W. F. Mruk. 27: 672—1955
Phase velocity and absorption measurements in water containing air bubbles. Francis E. Fox, Stanley R. Curley, and Glenn S. Larson. 27: 534—1955
Physico-chemical aspects of chemically active ultrasonic cavitation in aqueous solutions. Olle Lindström. 27: 654—1955
Pressure dependence of sound propagation in the primary alcohols. E. H. Carnevale and T. A. Litovitz. 27: 547—1955
Ultrasonic absorption in toluene. Robert T. Beyer. 27: 1—1955
Variation of acoustic velocity with temperature in some low velocity liquids and solutions. Graham W. Marks. 27: 680—1955

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On the theory of sound absorption in associated liquids. T. A. Litovitz and E. H. Carnevale. 27: 379—1955
Pressure dependence of ultrasonic velocity in sea water. E. H. Carnevale and T. A. Litovitz. 27: 794—1955

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Absorption and velocity of ultrasonic waves of finite amplitude in liquids. D. M. Towle and R. B. Lindsay. 27: 204—1955
Analysis of ultrasonic absorption from double relaxations. Robert T. Beyer. 27: 204—1955
Attenuation of sound in *para*-azoxyanisole. Daniel R. Curran. 27: 997—1955
Cavitation and polymer degradation. Winston Roberts, Ernest Yeager, and Frank Hovorka. 27: 1016—1955
Effect of pressure on ultrasonic relaxation. E. H. Carnevale, P. A. Kendall, and T. A. Litovitz. 27: 997—1955
Electrolytic apparatus for studying sound flow through orifices in liquid. Herbert V. Hillery. 27: 212—1955
On an ultrasonic absorption theory in liquids. Robert T. Beyer and Gene E. Bloch. 27: 997—1955
Ultrasonic absorption in aqueous solutions of manganous sulfate. J. R. Smithson and T. A. Litovitz. 27: 997—1955
Underwater ultrasonic scattering by a radial cylindrical temperature gradient. P. E. Grant. 27: 204—1955
Variation of acoustic velocity with temperature in some low velocity liquids and solutions. Graham W. Marks. 27: 997—1955
Wave propagation in fluid-filled tubes. Miguel C. Junger. 27: 211—1955

10.6 Solids, Ultrasonic Velocities, Dispersion, and Absorption

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Dispersion of ultrasonic pulse velocity in cylindrical rods. L. Y. Tu, J. N. Brennan, and J. A. Sauer. 27: 550—1955
Elastic constants of aluminum from 20°C to 400°C. Charles Zucker. 27: 318—1955
Elastic constants of zircon. J. Bhimasenachar and G. Venkataratnam. 27: 922—1955

Graphical representation of the spherical propagation of explosive pulses in elastic media. Werner Goldsmith and William A. Allen. 27: 47—1955
Ultrasonic attenuation studies in biased $BaTiO_3$ ceramics. T. F. Hueter and D. P. Neuhaus. 27: 292—1955
Ultrasonic velocities in polarized barium titanate ceramics. H. B. Huntington and R. D. Southwick. 27: 677—1955

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Change in Young's modulus and internal friction of Sn and Pb at the superconducting transition. Benjamin Welber. 27: 1010—1955
Determination of the dependence of ultrasonic machineability on certain physical properties of solids. George E. Miller. 27: 1016—1955
Dislocation relaxations and anelasticity of crystal quartz at low temperatures. W. P. Mason, H. E. Bömmel, and A. W. Warner, Jr. 27: 1010—1955
Frequency characteristics of colloidal vibration potentials. Ernest Yeager, Joseph Dereska, and Frank Hovorka. 27: 204—1955
Low temperature attenuation measurements in lead single crystals and their bearing on acoustic losses due to dislocation motions. W. P. Mason. 27: 198—1955
Measurement of dynamic mechanical properties over an extended frequency and temperature range. D. E. Kline and J. A. Sauer. 27: 1010—1955
Measurement of elastic stiffness and dissipation for solids at ultrasonic frequencies. H. J. McSkimin. 27: 1009—1955
Recent developments in the use of ultrasonic attenuation methods in solid state physics. Rohn Truell. 27: 1009—1955
Ultrasonic absorption in superconducting and normal conducting tin at low temperatures. H. E. Bömmel. 27: 1010—1955
Velocity dispersion of elastic waves in solids. D. S. Hughes and John M. Kennel. 27: 1010—1955

10.7 Physical Effects of Ultrasonic Waves. (See also 10.2.)

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Effect of ultrasonic energy applied during the after-ripening stage of photographic emulsion preparation. Richard C. Herold, J. Byron Jones, and Charlotte D. Knighton. 27: 9—1955
Elastic constants of zircon. J. Bhimasenachar and G. Venkataratnam. 27: 922—1955
Experimental studies on acoustic radiation pressure. Erna M. J. Herrey. 27: 891—1955
Physico-chemical aspects of chemically active ultrasonic cavitation in aqueous solutions. Olle Lindström. 27: 654—1955
Production of accelerated cavitation damage by an acoustic field in a cylindrical cavity. A. T. Ellis. 27: 913—1955
Relaxations in the attenuation of single crystal lead at low temperatures and their relation to dislocation theory. W. P. Mason. 27: 643—1955

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Brown University Conference on Acoustics and the Structure of Liquids (June, 1954). R. B. Lindsay. 27: 173—1955
Production of spray by high power magnetostriction transducers. Alan E. Crawford. 27: 176—1955

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Change in Young's modulus and internal friction of Sn and Pb at the superconducting transition. Benjamin Welber. 27: 1010—1955
Detection of ultrasound with phosphorescent materials. Lucien A. Petermann. 27: 1005—1955
Determination of the dependence of ultrasonic machineability on certain physical properties of solids. George E. Miller. 27: 1016—1955
Effect of vibration amplitude and abrasive slurry on the rate of ultrasonic machining in tool steel. D. Goetze. 27: 1016—1955
Frequency characteristics of colloidal vibration potentials. Ernest Yeager, Joseph Dereska, and Frank Hovorka. 27: 204—1955
Recent developments in the use of ultrasonic attenuation methods in solid state physics. Rohn Truell. 27: 1009—1955
Ultrasonic cutting of quartz wafers. Norman E. Gibbs. 27: 1017—1955

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Ultrasonic attachment for oil pumps. Harl C. Burdick. 27: 1241—1955

10.8 Chemical Effects of Ultrasonic Waves

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Effect of ultrasonic energy applied during the after-ripening stage of photographic emulsion preparation. Richard C. Herold, J. Byron Jones, and Charlotte D. Knighton. 27: 9—1955
Physico-chemical aspects of chemically active ultrasonic cavitation in aqueous solutions. Olle Lindström. 27: 654—1955
Ultrasonic waves and electrochemistry. V. The frequency characteristics of the electrokinetic and the ac polarized gas electrode effects. Frank Saunders, Ernest Yeager, and Frank Hovorka. 27: 556—1955

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Rate of hydrogen peroxide production as a function of the pressure amplitude in a field of standing waves. Olle Lindström. 27: 657—1955

10.9 Biological Effects of Ultrasonic Waves

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Effects of noise on eosinophil levels of audiogenic-seizure-susceptible and seizure-resistant mice. Adam Anthony. 27: 1150—1955
Effects of noise on the blood eosinophil levels and adrenals of mice. Adam Anthony and Eugene Ackerman. 27: 1144—1955
Mechanical mechanism of destructive effects of sound on tissue. Walter Welkowitz. 27: 1142—1955

ABSTRACTS

Acoustic absorption of haired and hairless mice. Robert W. Farwell and Eugene Ackerman. 27: 999—1955
Biological effects of sound in mice. Adam Anthony. 27: 999—1955
Red blood cell destruction by cavitating sound fields. David B. Lombard and Eugene Ackerman. 27: 1016—1955
Sub-lethal effects of vibratory energy on *Pseudomonas fluorescens*. J. J. Shull, J. J. Reid, H. L. Kinsloe, and E. Ackerman. 27: 1016—1955
Transmission of vibrations through the human body. H. E. von Gierke. 27: 999—1955
Ultrasonic absorption in tissues; a review. T. F. Hueter. 27: 998—1955
Ultrasound in neurology. William J. Fry. 27: 998—1955

11. Waves and Vibrations. (See also 13.)

11.1 General, Unclassified

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Analog electronic correlator for acoustic measurements. Kenneth W. Goff. 27: 223—1955
Application of correlation techniques to some acoustic measurements. Kenneth W. Goff. 27: 236—1955
Heat conduction losses in the acoustic boundary layer. James E. Young. 27: 1039—1955
Model study of air-coupled surface waves. Frank Press and Jack Oliver. 27: 43—1955

On thermally induced sound fields. Leon Trilling. 27: 425—1955
On the stability of a plane flame front in oscillating flow. G. H. Markstein and W. Squire. 27: 416—1955
Phase velocities and displacement characteristics of free waves in a thin cylindrical shell. P. W. Smith, Jr. 27: 1065—1955
Simple derivation of the Boltzmann-Ehrenfest adiabatic principle. Martin Greenspan. 27: 34—1955
Steady rotational flow of an incompressible, viscous fluid enclosed between two coaxial cylinders. S. Skavlem and S. Tjötta. 27: 26—1955
Thrust on a piston driven half-open tube. George E. Hudson. 27: 406—1955

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Decilit: a new name for the logarithmic unit of relative magnitudes. V. V. L. Rao and S. Lakshminarayanan. 27: 376—1955
New system of logarithmic units. R. V. L. Hartley. 27: 174—1955

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Electrolytic apparatus for studying sound flow through orifices in liquid. Herbert V. Hillery. 27: 212—1955
Excitation of finite strings and bars by a flowing turbulent stream. Richard H. Lyon. 27: 1007—1955
Field of a noise source above an infinite plane. Peter Franken, Stanley Oleson, and Uno Ingard. 27: 206—1955
Low frequency fluctuations of rectified non-Gaussian noise. T. Magness. 27: 210—1955
Measured amplitude distribution of noise voltages. L. Y. Tu and R. C. Raymond. 27: 1004—1955
Near sound field of turbulence. G. J. Franz. 27: 1007—1955
Normal zone sound in shadow problems. David Mintzer. 27: 211—1955
Some problems associated with finite attenuating structures. Ira Dyer. 27: 205—1955
Sound field within a region of anisotropic turbulence. Robert H. Kraichnan. 27: 1007—1955
Sound transmission through thin cylindrical shells. P. W. Smith, Jr. 27: 1011—1955
Study of limitations on rapid signal analysis. Edith L. R. Corliss. 27: 1004—1955

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Acoustics, by L. L. Beranek. 27: 621—1955
Boundary layer flow near a cylindrical obstacle in an oscillating, incompressible fluid. J. Holtsmark, I. Johnsen, T. Sikkeland, and S. Skavlem. 27: 179—1955

11.1.5 Analogies (in previous volumes see 11.7.) (Started 1954.)

PAPERS

Calculations on a model of the vocal tract for vowel /i/ (meat) and on the larynx. Jw. van den Berg. 27: 332—1955
Electromagnetic analogy to sound propagation in moving media. Robert H. Kraichnan. 27: 527—1955
Isomorphisms between oriented linear graphs and lumped physical systems. Horace M. Trent. 27: 500—1955
Thrust on a piston driven half-open tube. George E. Hudson. 27: 406—1955

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Equivalent circuit of "floating lever" by the EFP analogy. B. B. Bauer. 27: 376—1955

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Synthesis of seismograms from well log data. C. A. Swartz, R. A. Peterson, and R. W. Fillippone. 27: 199—1955
Use of models in the study of seismic phenomena. Daniel Silverman. 27: 199—1955

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Acoustical impedance circuit of the two projector null system. W. James Trott and Edward N. Lide. 27: 951—1955
Analogous electrical circuit of an earphone socket vibrating as a rigid piston on the flexible cushion and underlying flesh. Jozef Zwislocki. 27: 148—1955
Equivalent circuit for a thickness mode, airbacked quartz crystal as derived by Mason. E. G. Cook and H. E. Van Valkenburg. 27: 564—1955
Equivalent circuit for delay line. H. J. McSkimin. 27: 303—1955
Mechanical model with traveling waves analogous to those observed on the cochlear partition. G. v. Békésy. 27: 139—1955
Network representation of a double crystal interferometer. Herman I. Leon. 27: 1108—1955
Representation of the mechanical impedance of the head or mastoid, and the electrical analog. Edith L. R. Corliss and Walter Koidan. 27: 1164—1955

BOOK REVIEWS

Schaltschemata und Differentialgleichungen elektrischer und mechanischer Schwingungsgebilde, Dritte Erweiterte Auflage. Heinrich Hecht. (Reviewed by Floyd A. Firestone.) 27: 622—1955

11.2 Diffraction. Interference. Scattering. Reflection. Echoes. Standing Waves

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Dispersion and simple harmonic point sources in wave ducts. Ivan Tolstoy. 27: 897—1955
Nonspecular reflection of sound from a sinusoidal surface. H. S. Heaps. 27: 698—1955
On the focusing effect of reflection and refraction in a velocity gradient. William J. Noble. 27: 888—1955

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Scattering of acoustic pulses by a solid sphere in air. Robert E. Anderson. 27: 1006—1955
Scattering of sound by sound. Uno Ingard and David C. Pridmore-Brown. 27: 1002—1955
Sound propagation into a wind-created shadow zone above a plane boundary. David C. Pridmore-Brown and Uno Ingard. 27: 206—1955

11.2.1 Gross Movement of Matter by Sound or Vibration. Acoustic Streaming. Chladni Figures. Kundt's Striae. Sensitive Flames. (See also 5.14 and 10.7.)

PAPERS

Acoustical streaming in the vicinity of a sphere. C. A. Lane. 27: 1082—1955
Mechanical mechanism of destructive effects of sound on tissue. Walter Welkowitz. 27: 1142—1955
Metastable jet-tone states of jets from sharp-edged circular, pipe-like orifices. A. B. C. Anderson. 27: 13—1955
On thermally induced sound fields. Leon Trilling. 27: 425—1955
On the stability of a plane flame front in oscillating flow. G. H. Markstein and W. Squire. 27: 416—1955
Some results of experiments relating to the generation of noise in jets. L. W. Lassiter and H. H. Hubbard. 27: 431—1955
Structure and velocity of the periodic vortex-ring flow pattern of a *primary Pfeifenton* (pipe tone) jet. A. B. C. Anderson. 27: 1048—1955

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Acoustic streaming near a small obstacle. Peter J. Westervelt. 27: 379—1955

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Acoustic streaming in a guided traveling wave. Herman Medwin and Fred Fisher. 27: 1002—1955
Acoustic streaming in the vicinity of a sphere. Carlton Lane. 27: 1003—1955

11.3 Propagation of Sound. Absorption during Propagation. Velocity of Sound. Second Sound. Refraction. Wavelength. Doppler Effect. (See also 10.4, 10.5, 10.6, 13.2, and 13.3.)

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Dispersion and simple harmonic point sources in wave ducts. Ivan Tolstoy. 27: 897—1955

Graphical representation of the spherical propagation of explosive pulses in elastic media. Werner Goldsmith and William A. Allen. 27: 47—1955

Model study of air-coupled surface waves. Frank Press and Jack Oliver. 27: 43—1955

Notes on the exact equations governing the propagation of sound in fluids. Frederick V. Hunt. 27: 1019—1955

On Webster's horn equation. E. S. Weibel. 27: 726—1955

Propagation of sound in thin elastic shells. James E. Young. 27: 1061—1955

Reflection and transmission of sound by a moving medium. Joseph B. Keller. 27: 1044—1955

Sound propagation into the shadow zone in a temperature-stratified atmosphere above a plane boundary. David C. Pridmore-Brown and Uno Ingard. 27: 36—1955

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Acoustical propagation of higher order modes in the region of cutoff. Robert F. Lambert. 27: 790—1955

Note on the papers: I. "Combined translational and relaxational dispersion of sound in gases," by M. Greenspan; I'. "The effects of viscosity and heat conduction on the transmission of plane sound pulses," by J. R. Knudsen. Stephen Jarvis, Jr. 27: 613—1955

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Field of a noise source above an infinite plane. Peter Franken, Stanley Oleson, and Uno Ingard. 27: 206—1955

Low temperature attenuation measurements in lead single crystals and their bearing on acoustic losses due to dislocation motions. W. P. Mason. 27: 198—1955

Measurement of dynamic mechanical properties over an extended frequency and temperature range. D. E. Kline and J. A. Sauer. 27: 1010—1955

Method for the calculation of the distribution of energy reflected from a periodic surface. William C. Meecham. 27: 1006—1955

Normal zone sound in shadow problems. David Mintzer. 27: 211—1955

Phase velocities of waves in a thin cylindrical shell. P. W. Smith, Jr. 27: 211—1955

Propagation of sound in moving media. Peter A. Franken and Uno Ingard. 27: 1006—1955

Propagation of sound pulses in a dispersive medium. E. T. Kornhauser, J. M. Proud, and P. Tamarkin. 27: 1006—1955

Reflection of plane sound waves by an irregular surface. J. G. Parker. 27: 1006—1955

Sound propagation into a wind-created shadow zone above a plane boundary. David C. Pridmore-Brown and Uno Ingard. 27: 206—1955

11.4 Radiation from Vibrating Objects. Acoustic Impedance. Mechanical Impedance. (See also 5.3 and 13.7.)

PAPERS

Fundamental acoustics of electronic organ tone radiation. Daniel W. Martin. 27: 1113—1955

On the radiation impedance of an array of finite cylinders. Donald H. Robey. 27: 706—1955

On the radiation impedance of the liquid-filled squirting cylinder. Donald H. Robey. 27: 711—1955

Phase velocities and displacement characteristics of free waves in a thin cylindrical shell. P. W. Smith, Jr. 27: 1065—1955

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Directional properties of continuous plane radiators with bizonal amplitude shading. Gordon E. Martin and John S. Hickman. 27: 1012—1955

Entrained air bubbles as sources of sound in liquids. M. Strasberg. 27: 202—1955

Sound transmission through thin cylindrical shells. P. W. Smith, Jr. 27: 1011—1955

Spectrum of sound from cavitation bubbles. H. M. Fitzpatrick. 27: 202—1955

Theory of the sound radiated into the liquid by the gas-to-liquid entry of an object. G. J. Franz. 27: 201—1955

Underwater sound from the splashes of water droplets and sprays of water droplets. G. J. Franz. 27: 201—1955

Wide-band directivity of receiving arrays. James J. Faran, Jr., and Robert Hills, Jr. 27: 1012—1955

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On the radiation impedance of an array of finite cylinders. Donald H. Robey. 27: 1227—1955

11.5 Sounds of Finite Amplitude. Distortion. (See also 13.10.)

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Graphical representation of the spherical propagation of explosive pulses in elastic media. Werner Goldsmith and William A. Allen. 27: 47—1955

Instrument to study relaxation rates behind shock waves. E. L. Resler, Jr., and M. Scheibe. 27: 932—1955

Thrust on a piston driven half-open tube. George E. Hudson. 27: 406—1955

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Finite amplitude acoustics. R. B. Lindsay. 27: 1002—1955

Spherical sound waves of finite amplitude. Donald T. Laird. 27: 1002—1955

11.6 Sound in Tubes

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Analysis of Hypex horns. Romuald I. Ścibor-Marchocki. 27: 939—1955

Note on the propagation of normal modes in inhomogeneous media. Ivan Tolstoy. 27: 274—1955

Simple triggering and marking system for measuring shock-wave velocities in tubes. Edward G. Thurston. 27: 735—1955

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Phase velocities of waves in a thin cylindrical shell. P. W. Smith, Jr. 27: 211—1955

Some problems associated with finite attenuating structures. Ira Dyer. 27: 205—1955

Wave propagation in fluid-filled tubes. Miguel C. Junger. 27: 211—1955

11.6.1 Sources of Sound. (See also 7.8 and 11.4.)

PAPERS

Directional properties of continuous plane radiators with bizonal amplitude shading. Gordon E. Martin and John S. Hickman. 27: 1120—1955

On the production of sound by jets. Nigel Thomas. 27: 446—1955

On thermally induced sound fields. Leon Trilling. 27: 425—1955

On the spectrum of noise from turbulence. Osman K. Mawardi. 27: 442—1955

On the stability of a plane flame front in oscillating flow. G. H. Markstein and W. Squire. 27: 416—1955

Some results of experiments relating to the generation of noise in jets. L. W. Lassiter and H. H. Hubbard. 27: 431—1955

Theory of vortex whistle. Irving Michelson. 27: 930—1955

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Note on the emission of noise by supersonic jets. Henry P. Kramer. 27: 789—1955

11.7 Theory of Waves and Vibrating Systems. (See also 5.4 and 11.1.5.)

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Analog electronic correlator for acoustic measurements. Kenneth W. Goff. 27: 223—1955
Analysis of Hypex horns. Romuald I. Scibor-Marchocki. 27: 939—1955
Directional properties of continuous plane radiators with bizonal amplitude shading. Gordon E. Martin and John S. Hickman. 27: 1120—1955
Dispersion and simple harmonic point sources in wave ducts. Ivan Tolstoy. 27: 897—1955
Elastic wave velocities in laminated media. J. E. White and F. A. Angona. 27: 310—1955
Entropic equations of state and their application to shock wave phenomena in solids. George E. Duvall and Bruno J. Zwolinski. 27: 1054—1955
Fundamental frequencies of clamped triangular plates. Hugh L. Cox and Bertram Klein. 27: 266—1955
Graphical representation of the spherical propagation of explosive pulses in elastic media. Werner Goldsmith and William A. Allen. 27: 47—1955
Heat conduction losses in the acoustic boundary layer. James E. Young. 27: 1039—1955
Interference patterns in reverberant sound fields. Richard V. Waterhouse. 27: 247—1955
Nonspecular reflection of sound from a sinusoidal surface. H. S. Heaps. 27: 698—1955
Note on the propagation of normal modes in inhomogeneous media. Ivan Tolstoy. 27: 274—1955
Notes on the exact equations governing the propagation of sound in fluids. Frederick V. Hunt. 27: 1019—1955
On the contribution of a contained viscous liquid to the acoustic impedance of a radially vibrating tube. Donald H. Robey. 27: 22—1955
On the lowest flexural resonant frequency of a circular disk of linearly varying thickness driven at its center. E. G. Thurston and Y. T. Tsui. 27: 926—1955
On the production of sound by jets. Nigel Thomas. 27: 446—1955
On the radiation impedance of an array of finite cylinders. Donald H. Robey. 27: 706—1955
On the radiation impedance of the liquid-filled squirting cylinder. Donald H. Robey. 27: 711—1955
On the statistical mechanics of an adiabatically compressible fluid. Robert H. Kraichnan. 27: 438—1955
On Webster's horn equation. E. S. Weibel. 27: 726—1955
Propagation of sound in thin elastic shells. James E. Young. 27: 1061—1955
Reflection and transmission of sound by a moving medium. Joseph B. Keller. 27: 1044—1955
Response of an elastic plate to localized driving forces. Richard H. Lyon. 27: 259—1955
Response of the Sperry rate Gyrotron to varying rates of turn. Charles T. Morrow. 27: 62—1955
Simple derivation of the Boltzmann-Ehrenfest adiabatic principle. Martin Greenspan. 27: 34—1955
Sound propagation into the shadow zone in a temperature-stratified atmosphere above a plane boundary. David C. Pridmore-Brown and Uno Ingard. 27: 36—1955
Steady rotational flow of an incompressible, viscous fluid enclosed between two coaxial cylinders. S. Skavlem and S. Tjötta. 27: 26—1955
Steady state response of the Sperry rate Gyrotron or vibratory gyroscope. Charles T. Morrow. 27: 56—1955
Studies on acoustic radiation pressure. I. (General considerations.) Jobu Awatani. 27: 278—1955
Studies on acoustic radiation pressure. II. (Radiation pressure on a circular disk.) Jobu Awatani. 27: 282—1955
Theory of vortex whistle. Irving Michelson. 27: 930—1955
Vibration of simply supported isosceles trapezoidal flat plates. Bertram Klein. 27: 1059—1955
Wave propagation in elastic tubes filled with streaming liquid. G. W. Morgan and W. R. Ferrante. 27: 715—1955

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Brown University Conference on Acoustics and the Structure of Liquids (June, 1954). R. B. Lindsay. 27: 173—1955
Some effects of the distribution of added mass to vibrating beams. Hirsh Cohen and George Handelman. 27: 177—1955
Vibration of a square plate point supported at midpoints of sides. Hugh L. Cox. 27: 791—1955

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Application of correlation techniques to geophysical prospecting. C. W. Horton. 27: 198—1955
Diffraction of a longitudinal pulse from a wedge in a solid. W. W. Grannemann. 27: 199—1955
Diffraction problems in elastic wave propagation in solids. L. Knopoff. 27: 199—1955
Excitation of finite strings and bars by a flowing turbulent stream. Richard H. Lyon. 27: 1007—1955
Low frequency fluctuations of rectified non-Gaussian noise. T. Magness. 27: 210—1955
On the vibrations of a thick split ring. Bernard Bernstein. 27: 1011—1955
Phase velocities of waves in a thin cylindrical shell. P. W. Smith, Jr. 27: 211—1955
Propagation of seismic wavelets. Norman Ricker. 27: 199—1955
Seismic waves from a horizontal force. J. E. White, S. N. Heaps, and P. L. Lawrence. 27: 199—1955
Some problems associated with finite attenuating structures. Ira Dyer. 27: 205—1955
Synthesis of seismograms from well log data. C. A. Swartz, R. A. Peterson, and R. W. Fillippone. 27: 199—1955
Theory of the sound radiated into the liquid by the gas-to-liquid entry of an object. G. J. Franz. 27: 201—1955
Use of models in the study of seismic phenomena. Daniel Silverman. 27: 199—1955

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Boundary layer flow near a cylindrical obstacle in an oscillating, incompressible fluid. J. Holtsmark, I. Johnsen, T. Sikkeland, and S. Skavlem. 27: 179—1955
On the radiation impedance of an array of finite cylinders. Donald H. Robey. 27: 1227—1955

11.8 Biological Effects of Vibration and Sound. (See also 10.9.)

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Effects of noise on eosinophil levels of audiogenic-seizure-susceptible and seizure-resistant mice. Adam Anthony. 27: 1150—1955
Effects of noise on the blood eosinophil levels and adrenals of mice. Adam Anthony and Eugene Ackerman. 27: 1144—1955
Human skin perception of traveling waves similar to those on the cochlea. G. v. Békésy. 27: 830—1955
Paradoxical direction of wave travel along the cochlear partition. G. v. Békésy. 27: 137—1955

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Acoustic absorption of haired and hairless mice. Robert W. Farwell and Eugene Ackerman. 27: 999—1955
Biological effects of sound in mice. Adam Anthony. 27: 999—1955

Transmission of vibrations through the human body. H. E. von Gierke. 27: 999—1955

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13. Underwater Sound

13.1 General, Unclassified

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Phase velocity and absorption measurements in water containing air bubbles. Francis E. Fox, Stanley R. Curley, and Glenn S. Larson. 27: 534—1955

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